PREVALENCE OF DEPRESSION AMONG TUBERCULOSIS PATIENTS ATTENDING CLINICS IN TEMEKE MUNICIPAL, DAR ES SALAAM, TANZANIA

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By

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A dissertation submitted in partial fulfilment of the requirements for the Degree of Master of Medicine in Psychiatry and Mental Health of Muhimbili University of Health and Allied Sciences

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CERTIFICATION

The undersigned certify that he has read and hereby recommend for acceptance by Muhimbili University of Health and Allied a dissertation entitled **Prevalence of depression and associated factors among Tuberculosis patients attending in clinics Temeke municipality, Dar es Salaam, Tanzania** in (partial) fulfilment of the requirements for the Degree of Master of Medicine (Psychiatry and Mental Health) of Muhimbili University of Health and Allied Sciences.

_____

Prof. G. Kilonzo

(Supervisor)

_____

Date

DECLARATION AND COPYRIGHT

I, **Gilbert Buberwa**, declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature..... Date……..

ACKNOWLEDGEMENT

First I would like to thank the Almighty God. Through him all this has been possible and this work has been successfully concluded.

My thanks go to my supervisor Prof G. Kilonzo for the invaluable assistance he has provided in supervision and encouragement throughout the research work.

I would especially like to thank Prof S. Kaaya for her efforts during proposal development. Also may thanks goes to colleagues working at Temeke Hospital and Mbagala Health Centre TB clinics for their assistance during data collection.

I am equally thankful to my colleagues, all academic and non academic members of the Department of Psychiatry and Mental of Health for their support and constructive inputs throughout this research work.

DEDICATION

This work is dedicated to my beloved wife (Sophia) and my children Daniel and Victor. Thank you for being such a wonderful family.

ABSTRACT

Tuberculosis is a chronic, contagious and airborne disease caused by Mycobacterium tuberculosis. Most of people affected are young adults in their most productive years. In 2007, Tanzania ranked 15th out of 22 high burden TB countries in the world. In that year there were 120,191 new TB cases forty seven percent of whom were HIV positive**.**

Studies have shown that the association between TB and depression is influenced by the interaction of social demographic characteristics, psychological factors, physical illness and the nature of the disease itself. The co morbidity of depression and TB has been shown to affect quality of life and treatment outcome.

No retrievable studies were found to determine the prevalence and associated factors for depression among patient with TB in Tanzania. Neither is there any reference to the CMD associated with TB in the Tanzanian TB and Leprosy program. There is a need for better understanding of the magnitude and associated factors for depression among patients with TB in order to integrate mental health care in TB management and thus provide more comprehensive care for patient with TB.

Aim: To determine the prevalence and associated factors for depression among patient with TB attending the TB clinics in Temeke Municipal, Dar es Salaam ,Tanzania.

Methods:

A descriptive cross sectional study in which 390 eligible study participants were selected using consecutive sampling, quantitative method of data collection was applied using structured questionnaire. The dependable variable (Depression) was measured using PHQ-9 while the independent variables of interest were social demographic characteristics, TB disease characteristics, family and personal history of mental illness, presence of physical illness and substance use history.

Data was analyzed using SPSS version 17 software. Chi square test and multivariate logistics regression were used to measure level of associations.

Results:

More than half 246 (63.1%) of the participants were men and 144 (36.9%) were women, with a mean age of 32.96 years (SD = 12.5) and the age range was 18 years to 88 years**.**

The prevalence of depression was found to be 46.9 %(n=183) with majority of patients found to have mild depression 33.6 % (n=152) and the magnitude of moderate depression was 13.3 %(n=52). None of the TB patients was found to have moderately severe depression or severe depression. In bivariate analysis the independent variables which showed a statistical significant association with the dependent variable ($p < 0.05$) include age, religion, past or current personal history of mental illness, duration of TB treatment and history of physical illness or chronic pain. In adjusted multivariate analysis for depression and predictors of interest; Christians showed statistical significant association with mild depression (OR 1.69; 95% CI 1.06,2.86: $P< 0.05$) and moderate depression (OR 3.41; 95% CI 1.63,7.15;$P<0.01$).Presence of current or past history of mental illness was also associated with moderate depression and having at least one of physical illness showed statistical significance in mild depression (OR 5.91; 95% CI 2.08,16.79;$P<0.01$) and moderate depression (OR 4.22; 95% CI 1.82,21.21;$P< 0.05$). Being in the intensive phase of treatment was also associated with mild depression (OR 1.97, 95% CI 1.19, 3.25; $P< 0.01$) and moderate depression (OR 8.03; 95% CI 3.328, 19.401; $P<0.01$).

Conclusion and recommendation:

The prevalence of depression among TB patients in this study population is higher when compared to the general population. Recognition and management of depression among patients with physical illness including TB is likely to result in more positive treatment outcomes. It is recommended that strategies to address the mental health needs of TB patients be integrated into their care.

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ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
TB	Tuberculosis
CTC	Care and Treatment Clinic
HIV	Human Immune Deficiency Virus
MUHAS	Muhimbili University of Health and Allied Science
UNAIDS	United Nations Program on HIV/AIDS
VCT	Voluntary Counselling and Testing
VVU	Virusi vya Ukimwi
CMD	Common mental disorder
DOTS	Direct Observed Treatment Short course
WHO	World Health Organization
HADS	Hospital Anxiety and Depression Scale
COPD	Chronic Obstructive Pulmonary Disease
SF 36	Medical Outcomes Study 36-Item Short-Form Health Survey

DEFENITION OF TERMS

Pulmonary tuberculosis affects the lungs and is the commonest form of tuberculosis. This is the infectious form of the disease.

Extra-pulmonary tuberculosis is the disease that affects organs other than the lungs.

New case is a patient who has never had treatment for tuberculosis before or had been on treatment for less than 4 weeks.

Relapse is when **a** patient who has been declared cured or has completed treatment but who reports back to the TB clinic and is AFB positive.

Failure in the context of this study means a patient who, while on treatment, is AFB positive at 5 months or later during the course of treatment.

Return after default is a patient who returns to treatment, bacteriologic ally positive, after Interrupted treatment for two months or more and who had been on treatment for more than 4 weeks.

Category of TB patients and treatment regimes according to WHO & NTLP; Medicine and abbreviated name: Isoniazid (H), Rifampicin (R) Pyrazinamide (Z), Streptomycin (S) and Ethambutol (E).

Category I: 2 RHZE/4 RH- New sputum smear positive PTB and new patients with severe forms of extra pulmonary tuberculosis

Category II: 2 SRHZE/1 RHZE/5 RHE- Relapse treatment failure and sputum smear positive return after default

Category III: 2 RHZE/4 RH- New sputum smear negative and extra-pulmonary TB (less severe forms)

Category IV: Chronic patients who remain or become sputum smear positive after completing a fully supervised re-treatment regimen.

Intensive phase; Two months treatment duration for Category I and III, Three months for Category II and IV.

Continuation phase; Four to six months treatment for Category I and III, Five months for Category IV & II

CHAPTER ONE

1.1 INTRODUCTION

Magnitude of Tuberculosis

Tuberculosis is a contagious and airborne disease caused by Mycobacterium tuberculosis. Worldwide, it is a leading cause of morbidity and mortality among adults. The disease is preventable and, in most cases, curable. Despite this, in 2007 an estimated 9.27 million persons newly acquired TB. Of these, 4.1 million (44%) were sputum smear-positive, which are more capable of spreading disease. TB incidence rates have declined or stabilized in five out of the six World Health Organization (WHO) regions between 1990 and 2007 (the exception is Europe, where rates are approximately stable). Yet at a global level, the total number of cases is increasing in absolute terms as a result of population growth. The majority of cases occur in 22 high-burdened countries in Africa, Southeast Asia, and the Western Pacific region. Together, these 22 countries account for 80% of the world's new TB cases.[1]

In 2007 the World Health Organization (WHO) rated Tanzania 15th among the 22 high-burden countries, based on TB incidence and the absolute number of new cases. Of the 120,191 new TB cases detected in Tanzania that year 56233 were sputum positive (WHO 2007). Even though Tanzania met the WHO target of 85% treatment success in 2007, the case detection rate for new sputum positive remained low at 51%.[2] The HIV epidemic is associated with a 60% increase in active TB in Tanzania. Forty-seven percent of TB patients were HIV positive in 2007.[2] It is now well established that the worsening trend of TB remains among the major public health problem. [3]

Another concern today is the problem of co- morbidity of TB with depression. Studies elsewhere have shown the magnitude of depression among TB patients to be high. Prevalence rates range from 19%-80 % as the following studies show Turkey 19 %-26 %, [4] India 76 %, [5] Pakistan 46.3 %-80 %, [6, 7] Nigeria 27.7 %-30 %, [8, 9, 10] Ethiopia 64 % ,[11] and South Africa 46

% .[12] The co morbidity of TB and depression is influenced by the interaction of social demographic characteristics, psychological factors, presence of physical illness and the nature TB of the disease.

1.2 LITERATURE REVIEW

Magnitude of depression among patients with TB

Depression is a common mental disorder that presents with depressed mood, loss of interest or pleasure, feelings of guilt or low self worth, disturbed sleep or appetite, low energy and poor concentration.[13]The recent Lancet series on global mental health highlighted the lack of research on the interactions between mental disorders and communicable diseases such as tuberculosis.[14] While research in low and middle income countries in this area is limited, increasingly studies are showing evidence for an association between TB and depression.

In Turkey a study among TB patients showed the prevalence of depression was 19% -26%, [4] while in India a study among sixty TB patients using Beck Depression Inventory (BDI) II found the prevalence of depression to be 80% with 16.7% mild, 45.8% moderate and 37.5% severe depression.[5] A study conducted in Pakistan in the year 2008 using the Hospital Anxiety Depression screening (HADS), showed that out of 108 TB patients 50 (46.3%) were depressed and 51 (47.2%) had anxiety. [6] Another Pakistan study using the HADS observed even a much higher prevalence of depression HADS .[7]

One study done in the University of Nigeria Teaching Hospital in Enugu, using Zung Self Rating Depression Scale (ZSRDS) found that among 105 out patients 41.9% patients had depressive symptoms. [8] Another study conducted in a different university teaching hospital outpatient clinic using the Patient Health Questionnaire-9 (PHQ-9) among 65 TB patients found a lower prevalence of depression of 27.7% [9] (21.5% with mild depression and 6.2% with moderate depression). A comparison study among 53 patients using General Health Questionnaire (GHQ) showed that the prevalence of depression was 30.2% in the TB group 15 % in long stay orthopaedic patients and 5% health control. [10]

In Ethiopia a study to determine relationship between common mental disorder (CMD) and TB/HIV infected patients showed that among 122 TB/HIV co- infected compared with 465

non co- infected HIV patients, the prevalence of depression was 63.7% and 46.7% respectively.[11] Patients with co morbidity had a much higher prevalence of depression. In Kenya a study conducted in an outpatient TB clinic among 159 patients with TB using the BDI found prevalence of depression to be 63% with 26.6% mild, 25.2% moderate and 13.2% severe depression.[15]

From this review of the few studies that have investigated depression among TB patients in low and middle income countries, it is evident that even though the extent of the problem varies with setting and measures used, a consistent pattern of relatively high rates of depression among patients with TB is observed when compared to the general population's point prevalence of depression 2.3% to 5.5% .[16, 17]

Factors associated with depression among patients with TB

The study in Turkey discussed above showed the prevalence of depression was associated with duration of TB treatment and category of TB treatment with 19% prevalence for recently diagnosed TB patients, 21.6% for defaulted TB patients, 25.6% for patients with mult drug-resistant TB and 47.3% in COPD. [4]

In India a study among 60 TB patients showed that chances of depression among TB patients were increased by hospital environment, economic problems, altered social relationship, TB stigma and duration of treatment. Social demographic characteristics like age, sex and marital status showed no statistical significance [5] while another study conducted in India were social demographic characteristics showed no significant association with depression among TB patients. [5] A Pakistan study among 108 TB patients showed raised depression and anxiety scores were associated with an increase in the number of symptoms reported, more serious perceived consequences and less control over their illness. [6]

In Nigeria prevalence of depressive symptoms amongst 105 TB patients in Nigeria was also associated with being widow(er) or single, increasing age, unemployment, duration of illness,

duration of treatment and being accompanied to hospital. [8] Another Nigerian study showed additional socio-demographic factors financial status and a clinical factor (persistent cough) was significantly associated with depression. [9]

In the Ethiopian study reviewed above on the prevalence of CMD among TB/HIV co infection and HIV only patients who had no source of income and day labourers were more likely to have CMD as compared to individuals who had a source of income and government employees respectively, greater risk of CMD was also associated with perceived stigma and rating general health as "poor" .[11] A systemic review addressing psychiatric morbidity and other factors affecting treatment adherence in pulmonary tuberculosis patients observed that high rates of depression and anxiety among tuberculosis patients were related to social stigma, inadequate social support, and the physiologic impact of chronic disease .[18]

Effect of depression on TB management

The 2003 WHO report on adherence to long term TB therapy highlighted the negative influence of altered mental states caused by substance abuse, depression and psychological stress on adherence behaviour to long term therapy of TB treatment .[16]

A study conducted in UK among 61 patients with TB, to assess the impact of tuberculosis on health related quality of life using Medical Outcomes Study 36-Item Short-Form Health Survey SF-36, and Centre for Epidemiologic Studies Depression Scale (CESDS), at diagnosis TB patients had worse scores in all eight SF-36 dimensions than UK general population norm scores. At follow-up, scores had improved significantly, except for physical functioning and general health perception, but remained below the UK norm. The mean anxiety and depression scores were high at diagnosis 48% and 22%, respectively, and anxiety scores remained high at follow-up. They concluded that TB patients suffer from significantly diminished health-related quality of life at diagnosis. Although treatment significantly improved patients' health status within two months, scores for many domains remain below UK norm scores. [17] In Zurich 440

TB patients were analyzed in a retrospective cohort study and revealed a high rate of relapse due to poor medication compliance, psychiatric disorders, alcoholism and drug addiction .[21]

Ability to cope with stressful life events, such as suffering from an illness has been shown to be adversely affected by feelings of helplessness and a lack of social support .[22] In India a study on quality of life (QOL) using BDI and SF 36 among 196 active TB patients, 196 control and 108 inactive TB patients, showed that in all fields of QOL, scores of the control group were higher than those of the patient groups. QOL scores in physical and social functionality dimensions of inactive cases were higher than in active cases. As BDI scores increased in active and inactive cases, physical component summary (PCS) and mental component summary (MCS) decreased. As the treatment period increased in active cases, MCS increased .[23]

Quality of life was also observed to be lower in all domains among TB/HIV co-infected patients compared to HIV infected patients without active TB. Depression, having a source of income and family support were strongly associated with most of the Quality of life domains. In co-infected patients, individuals who had depression were 8.8 times more likely to have poor physical health as compared to individuals who had no depression. [11] A study in South Africa among 166 TB patients showed psychosocial factors that had a negative influence on adherence to the Directly Observed Short Course (DOTS) program were feelings of helplessness (10.9%), depression (64.3%), and inadequate social support .[12]

Prevalence of depression and associated factors in other populations.

A population based epidemiological survey of 899 adults aged between 15 and 59 was undertaken in urban Dar es Salaam, Tanzania and found the prevalence of combined CMD to be 3.1% in the last six months and the determinants been income instability, relationships problems and deaths of loved ones. [24] Studies done among inpatients, outpatients and patients with other physical illness found varying results of depression prevalence. The prevalence of depression among primary care patients were found to be between 5% and 10 % [25] while patients with chronic illness showed higher rates of depression with a prevalence of 12% to 18% among diabetic patients [26] and 15% to 23% among patients with coronary heart disease .[27]

The reported gaps in recognising mental disorders in health delivery systems

A study conducted in South Africa among 4351 adults on treatment examined the prevalence rates of a range of physical and psychiatric disorders and their associated morbidity. Physical illnesses were reported in 55.2% of the sample in which 60.4% of them received treatment for their disorder while only 6.1% of those who had mental disorders (10%) received treatment. [28] Similar low recognition rates were found in a study done in Kenya among 2,770 patients in which only 4.1% of the 42% patients found to have symptoms of mental illness had a diagnosis of a mental disorder documented in their files .[29] A study in Tanzania on attitudes and practice towards depression among 14 primary care workers found that the majority of them felt that their ability to recognize depression in patients was compromised by their attitude `that it is the way people with poor stamina deal with life difficulties.[30]

1.3 PROBLEM STATEMENT

In 2007 the World Health Organization (WHO) rated Tanzania 15th among the 22 high-burden countries, based on TB incidence and the absolute number of new cases. HIV epidemic is associated with 60% increase in active TB in Tanzania. Forty-seven percent of TB patients were HIV positive in year 2007 .[2] This shows that more people are at risk of been infected and developing active TB. A rise in the incidence of TB forecast a gloomy picture when all the associated challenges are considered.

To the best of my knowledge no studies have address the question of prevalence and associated factors for depression among TB patients in Tanzania. At any rate none were retrievable. In other countries studies have reported prevalence of depression among TB patients ranges from 19%-80 % .[4,5,6,7,8,9,10,11] Studies have also identified a number of factors associated with depression among TB patients including: severe symptoms and poor perception of health,[10] being widow, single, old age, un employment, duration of illness and duration of treatment,[10] social stigma, poor social support and physiological impact of chronic disease .[11,18]

1.4 RATIONALE AND JUSTIFICATION OF THE STUDY

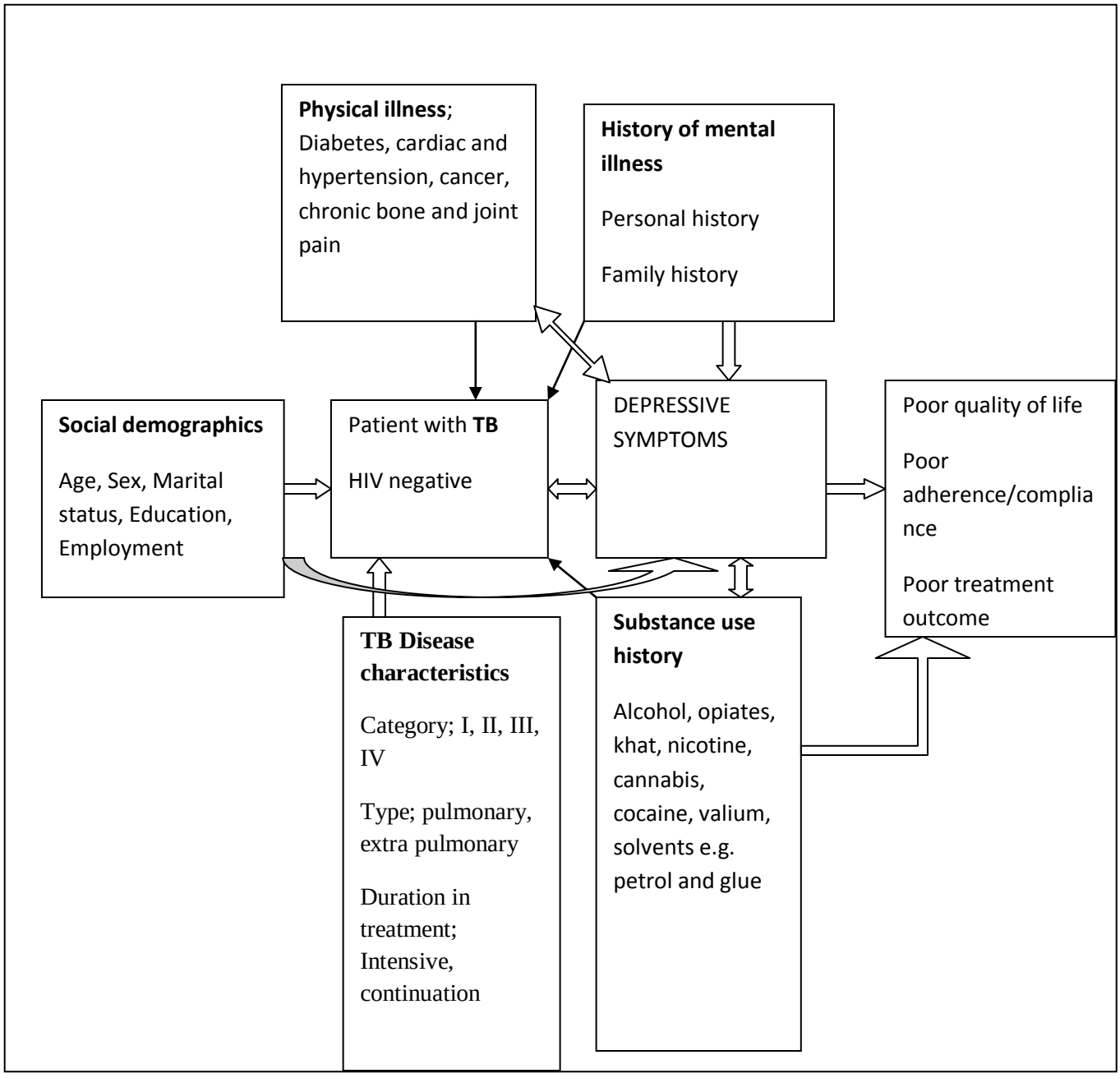
This study seeks to contribute to our understanding of a growing public health problem that is the double burden of TB co morbid with depression.

The results obtained will provide information on prevalence and associated factors for depression among patients with TB. This information will provide a basis for developing strategies that address the mental health needs of patients with TB and as such will improve the quality of care of these patients and result in more positive TB treatment outcomes.

1.5 CONCEPTUAL FRAME WORK

The high incidence of tuberculosis in mental illness was interpreted to mean that possibly tuberculosis may cause or predispose mental illness or that mental illness forms a strong predisposition to tuberculosis ,[31]also studies have shown that the more serious the somatic disease, the more likely it will be accompanied by mood and/or anxiety symptoms of variable severity .[32] The association between Tuberculosis and mental disorders can be attributed to the interaction of biological factors, psychological factors and social factors. Mental disorders (depression) among TB patients can be as a result of the psychological reactions to the medical illness or a direct physiological consequence of the illness and its medication,[33,34,35,36] pre-existing psychiatric disorders potentially increasing risk of TB infection and its progression to an active disease e.g. the altered immune response . [39] Another association between TB and depression is the shared risk factors for the developments of both diseases [23] or both disorders may coincide as result complicate their course and diagnosis .The above factors may act unilaterally, bilateral and multilateral to predispose or precipitate depressive symptoms among TB patients. The co morbidity of depression and TB may result in poor quality of life, poor treatment adherence and outcome. [11,19,20,22,23]. (Refer to the Conceptual framework figure 1).

1.5.1 Figure 1: CONCEPTUAL FRAME WORK



Denoting possible confounding effect ⟶

Denoting possible association effect ⇨

1.6 OBJECTIVES

1.6.1 Broad Objective

To determine the prevalence and associated factors for depression among patients with TB attending TB clinics in Temeke Municipal

1.6.2 Specific Objectives

1. To determine the prevalence of depression among patient with TB attending TB clinics in Temeke Municipal

2. To determine the associated social- demographic factors for depression among patient with TB attending TB clinic in Temeke Municipal

3. To determine the association between substance use, family and personal history of mental illness with depression among patients with TB attending TB clinics in Temeke Municipal

4. To determine the association of additional physical illness and depression among patients with TB attending TB clinics in Temeke Municipal

5. To determine the association of TB disease characteristic and depression among patients with TB attending TB clinics in Temeke Municipal

CHAPTER TWO

2.0 METHODOLOGY

2.1 Description of Study Area

Temeke is among the three districts in Dar es Salaam the commercial capital city of Tanzania, the other districts are Kinondoni and Ilala districts. Temeke Municipal has a population of about 1.2 million people (2002 census) with 38 TB clinics offering diagnostic, treatment and preventive health education to TB and HIV patients and the community. This study was conducted in two of these TB clinics:

(1)Temeke Municipal Hospital has a bed capacity of 280 beds; the hospital outpatient service caters for at least 1000 patient daily. Approximately 300 of the patients attend the TB clinic and follow the Direct observed treatment short courses (DOTS), about 5 new TB patients are registered daily (average of 60 per month). The quarterly clinic reports from registers shows an average of 42%-46% TB patients test HIV positive.

(2) Mbagala Health Centre: The centre serves about 400 out patients daily. On average 350 TB patients are in the DOTS Program at any given time and about 60-80 new TB patients are recruited per month. The clinic quarterly reports show that on average 37% of TB patients test HIV positive.

The two clinics are about 3 km apart and were selected conveniently based on the relatively high number of TB patients accessing services monthly. Temeke Municipal council has a diverse population in terms of a rural-urban mix, education, religion and socio economic levels. This study area was also selected as the principal researcher was familiar with the clinical services and patient population of the area which facilitated the research process.

2.2 Study Design

A hospital based descriptive cross sectional study using quantitative data methods. The study was conducted between August and October, 2012.

2.3 Study Population

The study population comprised of patients suffering from TB who were attending TB clinics in Temeke Municipal (Temeke Hospital and Mbagala Health Centre) and who meet the eligibility criteria during the study period.

2.4 Sample size estimates;

The estimated sample size N was computed using the formula below,

$$N = \frac{Z^2 p\,(100-p)}{e^2}$$

Where;

N = Estimated Sample Size

Z = is the standard deviation in normal population, which turns out to be 1.96 on using the 95% confidence interval.

P= prevalence of depression among TB patients in previous done studies

e= margin of error

From the previous studies for example Hussein in Pakstan[6] found the prevalence of depression among patients with TB to be around 46.3%

Hence from the formula above the sample size was;

$$N = \frac{1.96 \times 1.96 \times 46.3\,(100-46.3)}{5 \times 5}$$

N = 382 adding 10% = 420

2.5 Selection Criteria

Inclusion criteria were;

(i) TB patients receiving anti tuberculosis medication in TB clinics in Temeke Municipal Hospital and Mbagala Health Centre for at least 2 weeks

(ii) Being 18 years old and above

(iii) Those who consented to participate in the study.

(iv) HIV negative status

The exclusion criteria were:

(i) Patients who were observed to be physically very sick or unfit for the interview

2.6 Sampling technique

A consecutive sampling technique was used. Participants were recruited almost equally from both study sites (200 from Temeke hospital TB clinic and 190 from Mbagala Health Centre). In each of the two TB clinics information about the study was given to the large group during their regular clinic visits. Patients who met eligibility criteria and consented were consecutively recruited by the principal investigator and two research assistants. Simple temporary coding was recorded on the TB attendance card and file indicating the patient had been interviewed and whether or not follow care for depression was required.

2.7 Research instruments

A researcher-designed questionnaire (Appendix III & IV) was administered to record information on participants' age, gender, educational level, marital status, income, employment status and religion.

Tuberculosis disease characteristics assessed included duration of TB treatment (e.g. intensive or continuation phase), TB treatment category and type of TB (pulmonary or extra

pulmonary). Patients TB cards were also used to obtain information such as duration of TB treatment, type of TB, treatment category, HIV status and registration number.
Past and current personal history of mental illness, family history of mental illness, substance use history in the past three months (e.g. opiates, cannabis, alcohol, nicotine, cocaine, benzodiazepines, khat and solvents) were assessed including presence of other chronic physical/pain illness e.g. diabetes, cancer and cardiovascular diseases

Depressive morbidity was measured using the Patient Health Questionnaire-9 (PHQ-9) (included in Appendix III & IV). The PHQ-9 is a structured screening tool, a Swahili version of which has been validated in Kenya [28]. The tool showed good face validity and adequate internal consistency with Cronbach's alpha of 0.8. PHQ-9 was developed for use in primary care settings has only 9 items making it a convenient tool for depressive morbidity assessments in a busy outpatient clinic. The nine items assess presence of core depressive symptoms basing on DSM IV and one assesses functioning impairment as a result of symptoms. The scoring is based on 4 likert scale (0 not experienced at all to 3 experiences nearly every day).

2.8 Data collection and management

Four nurses working in TB clinics, two for each TB clinic were hired to be research assistants. The PI conducted a three day brief protocol training for the research assistants. The training focused on the purpose of the study, familiarization with data collection tools and practical skills sessions on how to administer the study instrument.

Since the PHQ-9 was previously used in this cultural context only the questionnaire was pre-tested prior to the data collection. Ten pilot phase participants were initially interviewed by the PI, five from each TB clinic. The same 5 were re interviewed by the research assistants .The data generated was used to test and refine the study questionnaire. It was found that questions related to marital status and occupation needed to be more specific and more options needed to

capture the varied marital states. It was also difficult to elicit information regarding history of substance use within the previous 3 months including the initiation of n anti tuberculosis medication.. The questionnaire was adjusted accordingly. These pilot interviews are not included in analysis.

2.9 Data Analysis

The independent variables of interest analyzed were: age, sex, occupation, level of education, religion, marital status duration of being on TB medication(intensive or continuation phase),TB treatment category(I,II,III and IV) .Other independent variable included; presence of chronic physical illness (e.g. diabetes, hypertension and cancer), personal and family history of mental illness and substance use while the outcome measure(dependent variable) is depression, Data was analyzed using SPSS version 17 software. Descriptive statistics including frequencies, percentages and means was used to summarize the data set-To patients who had at least one of the additional physical illness was considered as having physical illness ,also patients who used at least one of the substance of abuse was considered using the substance.

In bivariate analyses the Chi square statistics was used to assess variation by social-demographic measures, substance use, other physical illness, TB disease characteristic and personal and family history of mental illness and dependent variables of interest-Depression (objectives number 2-5). The independent variables with a significance level of $P < 0.2$ were compared on outcome measure in order to get association, magnitude of association and controlling confounders.

Each question of the PHQ-9 was scored 0 to 3 (0 = not at all, 1=several days, 2=more than half the days, and 3=nearly every day) with a range of 0–27. The nine items reflects the DSM IV criteria for major depressive disorder. The interpretation of the scores rates the severity of depression. A score of 0–4 indicates no depression; 5–9 mild depression; 10–14 moderate depression; 15–19 moderately severe depression; and 20–27 severe depression.

Perceived level of social occupational dysfunction was recorded by categorizing into; 3=extremely difficult, 2=very difficult, 1= somewhat difficult and 0= not difficult at all

2.10 Ethical consideration

Ethical clearance to conduct the study was sought from Muhimbili University of Health and Allied Sciences Ethical Review Board. Permission to conduct the study was obtained from District Medical Officer, Temeke Municipal.

Informed written consent to participate in the study was sought from potential study participants. The benefit and risk of participating in the study were well elaborated (e.g. no financial gains and if the participant is found to be depressed an appropriate referral would be made at Temeke hospital mental health clinic). These participants were assured of confidentiality and were not identified by name but by simple coding. Therefore further as that information provided was confidential. It was also made clear that acceptance or refusal to participate in the study had no consequences with regard to continued treatment and that they are free not to participate in the study at any time and they were also free not to answer a question if they felt uncomfortable about the question.

CHAPTER THREE

3.0 RESULTS

Description of study participant

Of the 390 consecutively selected and consenting participants, more than half 246 (63.1 %) of the participants were men and 144 (36.9 %) were women, with a mean age of 32.96 years (SD = 12.5) and the age range was 18 years to 88 years. More than half of the participants (54.6 %) were between 18 to 30 years old, 41.3% (31-61) and 4.1% (62-92) years. Slightly less than half 188 (48.2%) were officially married, 142 (36.4 %) were single 142 (36.4%), divorced 45 (11.5%) and widows(er) 15(3.8. %).

Majority had primary school education 223 (57.2%), secondary school 98 (25.1%), collage/university 21(5.4%) while 47(12.1%) had no formal education/adult education. Muslims comprised of 260(66.7%) and Christian 130(33.3%) of the study. Majority of participants were self employed 181(46.4%), employed 59(15.1%), unemployed 83(21.3%) and 33(8.5%) were students. (See Table 1)

Table 1: Distribution of respondents' social demographic characteristics (N=390)

Variable	Options	(M) N=246(%)	(F) N=144(%)	(T) N=390(%)
Age group	18 to30	127(59.6)	86(40.4)	213(54.6)
	31 to 61	109(67.7)	52(32.3)	161(41.3)
	62 to 92	10(62.5)	6(37.5)	16(4.1)
Marital status	Married/cohabiting	117(62.2)	71(37.8)	188(48.2)
	Single	94(66.2)	48(33.8)	142(36.4)
	Divorced	29(64.4)	16(35.6)	45(11.5)
	Widows	6(40.0)	9(60.0)	15(3.8)
Education	No formal /adult	22(46.8)	25(53.2)	47(12.1)
	Primary school	138(61.9)	85(38.1)	223(57.2)
	Secondary school	69(70.4)	29(29.6)	98(25.1)
	Collage/university	17(81.0)	4(19.0)	21(5.40)
Religion	Christian	78(60.0)	52(40.0)	130(33.3)
	Muslim	168(64.6)	92(35.4)	260(66.7)
Occupation	Unemployed	28(33.7)	55(66.3)	83(21.3)
	Peasant	14(41.2)	20(58.8)	34(8.7)
	self employed	134(74.0)	47(26.0)	181(46.4)
	Employed	49(83.1)	10(16.9)	59(15.1)
	Student	21(63.6)	12(36.4)	33(8.5)

KEY;M=Male=Female

The prevalence of depression among TB patient

The prevalence of depression was found to be 46.9 % (183) with the majority of patients' 33.6% (152) reporting mild depression and the remainder 13.3 % (52) reporting moderate depression (See Table 2)

Table 2: Prevalence of depression among TB patients (N=390)

Depression category	Male	Female	Total 390(%)
No depression	135(65.2)	72(34.8)	207(53.1)
Mild depression	79(60.3)	52(39.7)	131(33.6)
Moderate depression	32(61.5)	20(38.5)	52(13.3)

Association between depression and social demographic characteristics

High proportion of females had depression 50% (144) while only 45.1 %(246) of male reported depression. This variation by gender showed no statistical significance. With regard to age, the older age category of 62 - 92 years showed the highest prevalence of 68.8 %(16), age category 31 - 61 years showed a prevalence of 45.3 % (161) and the age category 18 - 30 years showed a prevalence of 46.5% (213).These variations where statistically significant (P <0.05). Being younger (18 to 30 years) makes a patient 73 percent less likely to be depressed compared to being in the old age 62-92 (crude OR 0.27; 95% CI 0.09, 0.84; P <0.05) also age category of 30 to 60 years had 67 percent less chance of having mild depression compared to age group 62-92 (crude OR 0.33; 95% CI 0.10, 0.91; P <0.05). In patients who are widows(er) the prevalence of depression was found to be 73.3% (15) while the divorced and single had a prevalence of 55.6% (45) and 45.8% (142) respectively. The prevalence of depression among those who are married or cohabiting was found to be 43.6% (188), these variations were not s statistically significant.

The prevalence of depression among Christian was 56.9% (130) while Muslims showed a prevalence of 41.9% (260), these variations are statistically significant (p <0.01). Being a Christian increased the chance of having moderate depression by 2.696 compared to being a Muslim (crude OR 2.69; 95% CI 1.44, 5; P <0.010).

Results indicate that the majority of patients with collage /university education 66.7% (21) reported depression while patients with no formal education/adult education showed a prevalence of 51% (47), patients with primary and secondary education showed a prevalence

of 43.9 % (223) and 46.9 % (98) respectively. These variations were not statistically significant.

The prevalence of depression among peasants was 64.7% (34) while students had a prevalence of 57.6% (33), the unemployed/ house wife, self employed and employed had prevalence rates of 45.8% (83), 42% (181) and 47.5% (59) respectively. These variation were not statistically significant (see Table 3)

Table 3: Association between depression and social demographic characteristics among TB patients (N=390)

Variables	Options	No depression	Mild depression	Moderate depression	Total 390(%)	Chi square	**P value**
Gender	Male	135(54.9)	79(32.1)	32(13)	246(63.1)	0.89	0.640
	Female	72(50.0)	52(36.1)	20(13.9)	144(36.9)		
Age group	18 to30	114(53.5)	63(29.6)	36(16.9)	213(54.6)	11.39	0.023
	31 to 61	88(54.7)	58(36)	15(9.3)	161(41.3)		
	62 to 92	5(31.3)	10(62.5)	1(6.3)	16(4.1)		
Marital	Married	106(56.4)	59(31.4)	23(12.2)	188(48.2)		
	Single	77(54.2)	45(31.7)	20(14.1)	142(36.4)	7.51	0.276
	Divorced	20(44.4)	18(44)	7(15.6)	45(11.5)		
	Widows	4(26.7)	9(60)	2(13.3)	15(3.8)		
Religion	Christian	56(43.1)	48(36.9)	26(20.0)	130(33.3)	10.81	0.004
	Muslim	151(58.1)	83(31.9)	26(10)	260(66.7)		
Education	No school/adult	23(47.9)	20(41.7)	5(10.4)	47(12.1)	6.51	0.368
	Primary school	123(56.1)	71(31.8)	27(12.1)	223(57.2)		
	Secondary school	52(53.1)	31(31.6)	15(15.3)	98(25.1)		
	Collage/university	7(33.3)	9(42.9)	5(23.8)	21(5.4)		
Occupation	Unemployed	45(54.2)	25(30.1)	13(15.7)	83(21.3)		
	Peasant	12(35.3)	18(52.9)	4(11.8)	34(8.7)	11.31	0.184
	Self employed	105(58.0)	54(29.8)	22(12.2)	181(46.4)		
	Employed	31(52.5)	22(37.3)	6(10.2)	59(15.1)		
	Student	14(42.4)	12(36.4)	7(21.2)	33(8.5)		

P:2 sided

The association of substance use, family and personal history of mental illness with depression among TB patients

About fifty four percent (24) of TB patients with previous or a current history mental illness reported depression while only 46.4% (366) of patients without history of mental illness have depression. These variation are statistically significant (p= 0.010), Having past or current history of mental illness increases the chance almost threefold of having moderate depression compared to having no history of mental illness (crude OR 3.240; 95% CI 1.23, 8.52; P< 0.01)

The prevalence of depression among TB patients with a family history of mental illness was 51.6% (31) was higher than for TB patients with no family history of mental illness 46.5% (359), but this was not statistically significant.

The prevalence of depression among TB patients who have used at least one substance of abuse (e.g. alcohol, cannabis, cocaine, khat, opiates, benzodiazepines or nicotine) in the past three months was found to be 52.1% (94) while for those who have not used was 45.3% (296). The variations were not statistically significant. (See Table 4)

Table 4: Association between depression and history of mental illness including substance use among TB (N=390).

Variables		No depression	Mild depression	Moderate depression	Total N 390(%)	Chi square	P value
Personal history of mental illness	Yes	11(45.8)	5(20.8)	8(33.3)	24(6.2)	9.16	0.010
	No	196(53.6)	126(34.4)	44(12.0)	366(93.8)		
Family history ofmentalillness	Yes	15(48.4)	13(41.9)	3(9.7)	31(7.9)	1.17	0.55
	No	192(53.5)	118(32.9)	49(13.6)	359(92.1)		
Substance use	Yes	45(47.9)	36(38.3)	13(13.8)	94(24.1)	1.47	0.47
	No	162(54.7)	95(32.1)	39(13.2)	296(75.9)		

The association of additional physical illness and depression among TB patients

TB patients who have at least one of the chronic physical illnesses like diabetes mellitus, cancer, cardiovascular diseases, chronic pain, kidney and liver diseases had a prevalence of depression of 79.3% (29) while TB patients without any chronic physical illness had a prevalence of 44.3% (361). These variations were statistically significant (P< 0.01). TB patients with at least one chronic physical illness were six times more likely to have mild depression compared to those who had no physical illness (crude OR 5.67; 95% CI 2.2 , 14.6;P <0.01)(See Table 5)

Table 5: Association between depression and presence of an additional chronic pain/physical illness among TB patients (N=390)

Variable	Options	No depression	Mild depression	Moderate depression	Total N 390(%)	Chi square	P value
Physical illness	Yes	6(20.7)	19(65.5)	4(3.8)	29(7.4)	15.764	0.000
	No	201(55.7)	112(31.0)	48(13.3)	361(92.6)		

P:2 sided

The association of depression and TB disease characteristic among TB patients

The prevalence of depression among TB patients who are within the first two months of TB treatment (intensive phase) was 56.3% (222) while those in continuation phase had a prevalence of 34.6% (168).These variations were statistically significance (P<0.01). Being in Intensive phase increases the chance of having mild depression by two folds compared to those who are in continuation phase (crude OR 1.899; 95% CI 1.2, 2.9: P <0.05) and also increases the chance of having moderate depression by five folds (crude OR 5.4; 95% CI 2.5, 11.6; P< 0.01).

Among patients in TB treatment category I 47.9 % (311) reported depression while in category II, III and IV combined prevalence of depression was 65 (43%). These, variations in treatment category had no statistical significance.

Forty six percent (294) of patients with pulmonary TB had depression while 47.9% (96) of patients with extra pulmonary TB had depression. These variations were not statistically significant. (See Table 6)

Table 6: Association between depression and TB disease characteristics among TB patients (N=390).

Variables	Options	No depression	Mild depression	Moderate depression	Total N 390(%)	X^2	P value
Duration of TB treatment	Intensive phase	97(43.7)	82(36.9)	43(19.4)	222(56.9)	24.3	0.000
	Continuation phase	110(65.5)	49(29.2)	9(5.4)	168(43.1)		
Category of TB treatment	Category I	162(52.1)	103(33.1)	46(14.8)	311(79.7)	2.83	0.243
	Category II/III/IV	45(57.0)	28(35.4)	6(7.6)	65(16.7)		
Type of TB	Pulmonary	157(53.4)	98(33.3)	39(13.3)	294(75.4)	0.05	0.975
	Extra pulmonary	50(52.1)	33(34.4)	13(13.5)	96(24.6)		

P:2 sided

Multivariate analysis

Analysis of Depression on predictors of interest; the independent variables were age category, religion, occupation, past history of mental illness, presence of physical illness and duration of TB treatment. Patients who are Christians were about one and half times more likely to have mild depression compared to Muslims (OR 1.69; 95% CI 1.06, 2.86; P <0.05). Christians were also three times more likely to have moderate depression compared to Muslims (OR 3.41; 95% CI 1.63, 7.15; P <0.01). Patients who have a current or past history of mental illness were six times more likely to have moderate depression compared to those with no history of mental illness (OR 6.31; 95% CI 1.84, 21.65; P< 0.01). Reporting at least one physical illness had a six fold chance of having mild depression compared to not having a physical illness (OR 5.91; 95% CI 2.08,16.79; P< 0.01) and a fourfold chance of having a moderate depression (OR 4.22; 95% CI 1.82,21.21;P <0.05). Patients who were in the intensive phase of treatment were two times more likely to have mild depression compared with those who are in continuation phase (OR 1.97, 95% CI 1.19, 3.25; P <0.01) also they were eight time more likely to have moderate depression (OR 8.03; 95% CI 3.32, 19.40; P <0.01).(See Table 7)

Table 7: Multivariate logistic regression of depression on factors of interest among TB patients (N= 390).

Variables	Mild Depression			Moderate Depression		
	AOR	95% CI	P	AOR	95% CI	P
Religion						
Christian	1.69	1.06 -2.86	0.041	3.42	1.63-7.15	0.001
Muslim	1.00			1.00		
Personal history of mental illness						
Yes	1.27	0.25-2.38	0.65	6.31	1.84-21.65	0.003
No	1.00			1.00		
Physical illness						
Yes	5.91	2.08–16.79	0.001	4.22	1.82-21.21	0.032
No	1.00			1.00		
Duration of TB treatment						
Intensive phase	1.97	1.19 - 3.25	0.008	8.03	3.32-19.40	0.000
Continuation phase	1.00			1.00		

Key: Factors entered in full effect regression model using backward method were: age category, religion, occupation, past history of mental illness, presence of physical illness and duration of TB treatment.

CHAPTER FOUR

4.0 DISCUSSION

Studies have shown there is a high prevalence of mental health problems including depression associated with chronic physical illness compared to the general population .[24,25,26,27] Studies have also clearly indicated that mental disorders including depression are not detected during patients' assessment in health delivery system .[28,29,30] As a psychiatric resident working in the Tanzanian context where the burden of TB patients ranks high in the world [2] my concern was the degree to which these same patients are burdened with an undiagnosed mental illness like depression. The main objective of this study was to determine the prevalence and associated factors for depression among patient with TB attending TB clinics in Temeke Municipal. The study sought to identify the mental health needs of TB patients so that their needs could be addressed.

The association between TB and depression is multifaceted. Psychiatric conditions (depression) among TB patients may be the result of psychological reactions to the medical illness or a direct physiological consequence of the illness and psychiatric complications associated with anti tuberculosis therapy .[33,34] Pre-existing psychiatric disorders which potentially increase the risk of TB and risk of progression from latent TB infection to active TB[39] and co morbidity as a result of commonly shared risk factors for the development of a variety of psychiatric disorders and TB[23] have been well highlighted.

In this study the mean age of participants was 32 years of age. Tuberculosis affects young adults in their most productive years.[1] the prevalence of depression among TB patients in this study was found to be 46.9% with 33.6% reporting mild depression and 13.3% moderate depression. Among the participants none were found to be experiencing moderately severe, severe or very severe depression, similar categories of depression using PHQ 9 were observed in a study done in Nigeria.[9] Studies conducted in Pakistan and Nigeria using the Hospital Anxiety and Depressive Scale (HADS) also observed similar findings to this study in which

prevalence of depressive symptoms among patients with TB were 46.3% and 41.9% respectively. [6, 8] Overall, findings from studies reflect a high but varied pattern of depressive symptoms among patients with TB. The variety seems to be partly accounted for by the characteristics of the study population and type of screening tools used .[38]

In India higher rates of depression were found among admitted TB patients using BDI-II with rates of depression as high as 80% with 16.7% mild, 45.8% moderate and 37.5% severe depression.[4] Also in Kenya using the BDI prevalence of depression among TB patients was found to be 63% with 26.6% mild, 25.2% moderate and 13.2% severe depression.[15]

Lower prevalence of depression among TB patients was observed in Nigeria using PHQ-9 in which the prevalence of depression was found to be 27.7% comprising of 21.5% with mild depression and four (6.2%) with moderate depression .[9] Also in Turkey using CIDI it was observed the prevalence of depression to be 19% for recently diagnosed TB patients, 22% for defaulted TB patients, and 26% for patients with multi drug-resistant TB.[4]

In this study an association between age and depression ($P<0.05$) was found, in which younger patients with TB had lower proportion of depression and it's supported by studies done in Nigeria. [8, 9].In this study religion also showed association with depression ($P<0.01$) among patients with TB in which higher proportion of depression were seen among Christians.

In this study a past or current personal history of mental illness was found to be significantly associated with depression ($P<0.05$), having at least one additional physical illnesses/ chronic pain and duration of TB treatment both showed significant association with TB ($p< 0.01$).

In multivariate analysis: religion, past/current history of mental illness, presence of physical illness and duration of treatment remained statistically significant when compared with depression. Christians were about one and half times more likely to have mild depression compared to Muslims. Christians were also three times more likely to have moderate

depression compared to Muslims. No other study was found which addressed an association between religion and depression in this patient population, however a systemic review on effect of high spirituality and religiosity showed that spirituality and religiosity can be beneficial to majority of depressive patients particularly in the context of life stress but may increase the risk of depression in certain populations (those with family problems).[40] Patients who had a current or past history of mental illness were six times more likely to have moderate depression compared to those with no history of mental illness. A diagnosis of TB may act as a precipitant triggering a relapse of previous depression. On the other hand studies have shown that having a mental illness increased the chance of developing TB .[39,41]The presence of at least one additional physical illness was associated with a six fold risk for mild depression and a fourfold risk for moderate depression. This may be because chronic physical illnesses by themselves are associated with depression in a bidirectional manner .[26,27,42,43,44]

Patients who were in the intensive phase of treatment were two times more likely to have mild depression and eight times more likely to have moderate depression compared with those who were in the continuation phase. This finding is similar to a study conducted in Nigeria.[8] It could also be due to the fact TB patients are still experiencing severe TB related symptoms, tolerating more medications used in this phase and also adjusting to the diagnosis and management plan of the disease.[45]

4.1 STUDY LIMITATIONS

As this study was cross-sectional, directionality of causation can not be determined. Hence, further longitudinal studies are required to examine directions of causality in associations between TB and Depression. The inclusion criteria required participants to be on treatment for not less than 2 weeks to avoid the most infectious phase but also a requirement of the assessment tool PHQ 9 is duration of symptoms for 2 weeks. This might have caused missing the severe forms of depressive symptoms. Despite the above shortcomings the study has provided descriptive and analytical information that can form the basis of new research questions and support advocacy measures for the provision of more comprehensive care of TB patients.

CHAPTER FIVE

5.0 CONCLUSION AND RECOMMENDATION

In conclusion with almost one in every two TB patients reporting depression it can be said that patients with TB have a double burden- TB and Depression. It can also be concluded that in our current context the chances of depression been recognized and diagnosed among TB patients is very low. It is also fair to conclude that a number of associated factors are likely to contribute to this high prevalence such as: current/past personal history of mental illness, presence of chronic pain/physical illness and duration of TB treatment. All these factors interact and increase the likelihood that a patient with TB will report depression.

Sensitization awareness should be provided to health workers, health planners and teaching institutions, emphasizing the fact that depression and other mental disorders are common among patients with TB and other physical illness. The need to build capacity on recognition and management of depression is highly recommended so that more comprehensive care can be provided.

There is a need for longitudinal studies in order to understand the relationship between TB and depression and how they interact with other factors so has to get the illness trajectory. This additional knowledge will facilitate the development of interventions that are multifaceted and better target the specific mental health needs for TB patients in Tanzania.

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APPENDICES

Appendix I: Informed Consent Form (English Version)

To be read and questions answered in a language in which the study subject is conversant (English or Kiswahili)

My name is ……; I am a pursuing master's degree in Psychiatry at the University of Health and Allied Sciences. I am doing a study on Prevalence and associated factors for depression among TB patients attending TB clinic in Temeke Municipal Hospital and Mbagala Health centre as part of my degree award fulfilment. As you are one among the clients attending this clinic I would like to ask you to participate in this study. First I will explain to you about the study and I will be ready to answer any question that you have.

The aim of this study is to determine the prevalence and associated factors for depression among TB patients attending TB clinic in Temeke municipal Hospital and Mbagala Health Centre

This study will be conducted by me under my supervisor.

This is a medical research and you are required to understand the following which applies to all in medical research. Your participation is completely voluntary and you may withdraw consent at any time in the course of the interview. Refusal to participate will not in any way affect your health services/benefits to which you are entitled.

After reading the explanation, don't hesitate to ask any questions in case you need clarifications.

I will assess you using an instrument which will take about 30 minutes.

No invasive procedures such as drawing blood will be involved.

All information obtained from this study will remain confidential. Code numbers will be used instead of your name.

RISKS:

Some of the topics in the interview are personal and they may bring emotions, may make you feel uncomfortable. You do not have to answer any question you do not want to. If you feel

uncomfortable you can end the interview at any time. If you would like to talk with counsellors or mental health personnel after this interview it can be arranged for you.

There will be no financial benefits to you. However the overall study will be of benefit to provide information that can be used to develop interventions and comprehensive care to people who have TB, if you will be found with depression appropriate care will be given in mental health clinic Temeke Hospital

If you have any questions related to this study, or your health you can call me on my telephone numbers 0713-494668, or you may contact Prof M. Abood, a chairman of the Research Senate and Publication committee, P.O. Box 65001 Dar es Salaam.

I the undersigned do hereby volunteer to participate in this study. The nature and purpose have been fully explained to me.

I understand that all information obtained will be used for this study only.

SIGNED----------DATE ----------

WITNESSED----------SIGNATURE----------DATE…….

Appendix II: Informed Consent Form (Swahili Version)

FORM YA RIDHAA KUSHIRIKI KWENYE UTAFITI KUHUSU KIWANGO NA VITU VINAVYO ATHIRI UWEPO WA SONONA KATIKA WAGONJWA WA KIFUA KIKUU WANAOPATA TIBA KATIKA KLINIKI ZA KIFUA KIKUU HOSPITALI YA MANISPAA YA TEMEKE

Jina langu ni …….

Ninatokea chuo kikuu cha tiba na afya Muhimbili katika idara ya afya na magonjwa ya akili ninafanya, utafiti kuhusu kiwango na vitu vinavyo athiri uwepo wa sonona katika wagonjwa wa kifua kikuu wanaopata tiba katika kliniki za kifua kikuu manspaa ya Temeke.

Ikiwa huu ni utafiti wa sayansi ya tiba unapaswa hufaamu yafuatayo kabla ya kushiriki;

Dhumuni la Utafiti huu

Kama nilivyo sema hapo awali dhumuni ni.kufanya utafiti kuhusu kiwango na vitu vinavyo athiri uwepo wa sonona katika wagonjwa wa kifua kikuu wanaopata tiba katika kliniki za kifua kikuu manspaa ya Temeke.

Namna ya kushiriki

Ushiriki wako kwenye utafiti huu ni wa hiyari kabisa na unaweza kukataa kushiriki au kusitishamahojiano wakati wowote. Kukataa kushiriki hakutahingilia uduma zako za tiba wala faida unazotakiwa kuzipata.

Usisite kuhuliza swali lolote pale unapoona kuna sababu. Kama ukikubali kushiriki mahojiano yataendeshwa kwa kutumia dodoso maalum.

Madhara

Ikiwa wakati unajieleza ukipata kikwazo na kuona unahitaji mshauri nasaha au mtoa huduma wa afya ya akili kwa mazungumzo zaidi tutakuwa tayari kusaidia

Usiri

Taarifa zako utakazozitoa hazitawekwa hadharani kwa namna yeyote ile kwa hiyo ushiriki wakohautafahamika. Jina lako au taarifa zozote zinazokutambulisha hazitaambatanishwa na taarifa zakoutakazozitoa.

Mwisho wa ufafiti taarifa hizi zitafungiwa na baadaye kuharibiwa baada ya kuwekwa na kutunzwa kwenye mfumo wa electroniki

Kumbuka

Hakutakuwa na faida ya moja kwa moja kwako kutokana na utafiti huu ila matokeo ya utafiti yatasaidia katika mpango wa tiba kwa wagonjwa wa kifua kuu.iwapo itaonekana una sonona taratibu za tiba zitapatikana katika kliniki ya magonjwa ya akili Temeke

Nani wa kumuuliza

Kama una maswali zaidi ambayo ungependa kuuliza kuhusiana na utafiti huu, tafadhali wasiliana na

Mtafiti Mkuu

Dr Gilbert Buberwa,

Idara ya magonjwa ya akili

Chuo Kikuu cha afya Muhimbili

Prof. M. Abood

Mwenyekiti wa kamati ya utafiti na machapisho ya chuo

S.L.P. 65001 Dar es salaam, Tanzania

Sahihi…….

Unakubali Kushiriki?.....

Mshiriki amekubali…….

Nimesoma au nimeambiwa kuhusu yaliyomo humu ndani. Maswali yangu yamejibiwa. Nakubali kushiriki katika utafiti huu.

Appendix III: Questionnaire (English Version)

Please fill the answer that is correct for you on the box on your right.

1. GENERAL INFORMATION

Date of interview: {...../...../2010} Questionnaire serial No: .....

Name of interviewer: .....

II. DEMOGRAPHIC CHARACTERISTICS OF RESPONDENT

1**.** Number of interviewee:.....

2. Age of the interviewee in years.....

3. Sex of respondent

1. Male
2. Female

4. What is your marital status?

1. Married
2. Unmarried
3. divorced/separated
4. Widow
5. Cohabiting

5. What is your religion?

1. Christian
2. Moslem
3. Others

6. What is your highest level of education?

1. Never went to school
2. Primary school
3. Secondary school

4. College/University
5. Postgraduate/Masters
6. Adult education

7. When did you start Tuberculosis medication? Date, month, year (see card)

8. Which category of TB treatment are you receiving? (See card)

1. Category I
2. Category II
3. Category III
4. Category IV

9. What type of TB are you suffering from? (See card)

1. Pulmonary
2. Extra pulmonary

10. Have you ever been treated /are you currently on treatment for mental illness?

1. Yes
2. No

11. is there history of mental illness in your family members?

1. Yes
2. No

12. In relation to drug use, have you in the past twelve months used (put more than one response where applicable?)

1. Alcohol
2. Cannabis
3. Cigarette
4. Opiates, e.g. Heroin
5. Cocaine

6. Khat
7. Valium
8. Solvents e.g. petrol, glue
9. No

13. Do you have/are you currently on treatment for chronic illness (put more than one response where applicable)

1. Diabetes
2. Hypertension and cardiac illness
3. Cancer
4. Chronic pain due to bone /joint disease
5. Liver or kidney disease
6. No

III. Magnitude of depressive symptoms (PHQ-9)

14.Over the past two weeks how often have you been bothered by the following problems? Little interest or pleasure in doing things

0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday

15. Feeling down, depressed, or hopeless

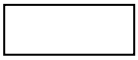
0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday

16. Trouble falling or staying asleep or sleeping too much

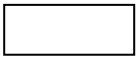
0. Not at all
1. Several days

2. More than half the days
3. Nearly everyday

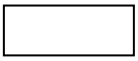
17. Feeling tired or having little energy
0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday



18. Poor appetite or overeating
0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday



19. Feeling bad about yourself, or that you is a failure or has let yourself or your family down
0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday



20. Trouble concentrating on things, such as reading the newspaper or watching TV
0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday

21. Being so fidgety and restless that you have been around a lot more than usual

0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday

22. Thought you would better be dead or of hurting yourself in some way

0. Not at all
1. Several days
2. More than half the days
3. Nearly everyday

23. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

1. Not difficult at all
2. Somewhat difficult
3. Very difficult
4. Extremely difficult

Appendix IV: Questionnaire (Kiswahili Version)

Tafadhari jaza jibu ambalo unaona ni sahihi kwako katika viboksi.

I.MAELEZO YA AWALI

Tarehe ya mahojiano: {...../...../2010} Namba ya dodoso: .....

Jina la msahili: .....

II. MAELEZO BINAFSI

1**.** Namba ya mshiriki anayehojiwa:.....

2. Umri wake (Miaka) .....

3. Jinsia ya mshiriki

1.Mume

2.Mke

4.Nini hali yako ya ndoa

1.Nimeoa/Nimeolewa

2.Sijaoa/Sijaolewa

3.Tumehachana/Tumetengana

4.Mjane

5.Naishi na Mwanamke/bwana

5.Je wewe ni mhumini wa dini gani?

1.Mkiristo

2.Muislamu

3.Dini nyenginezo

6. Je una kiwango gani cha elimu?

1.Sijasoma

2.Elimu ya msingi

3.Elimu ya sekondari

4.Elimu ya chuo/chuo kikuu

5.Nina shahada ya pili/sitashahada

6.Elimu ya watu wazima

7. Ni lini umenza tiba ya Kifua kikuu ? tarehe,mwezi,mwaka(ona kadi)

8.Je upo katika kundi gani la tiba ya kifua kikuu(ona kadi)

1.Tiba kundi la kwanza(I)

2.Tiba kundi la pili(II)

3.Tiba kundi la tatu(III)

4. Tiba kundi la nne(IV)

9.Ni aina gani ya kifua kikuu unayougua?(ona kadi)

1.kifua kikuu cha mapafu

2.kifua kikuu cha nje ya mapafu

3.kifua kikuu kilicho sambaa

10.Je umewahi kutibiwa au hivi sasa upo kwenye tiba ya magonjwa ya akili

1.Ndiyo

2.Hapana

11. Je katika familia unayotoka ,kuna mtu amewahi kuugua au yupo kwenye tiba ya magonjwa ya akili?

1.Ndiyo

2.Hapana

12. Kuhusu matumizi ya vilevi,Je miezi kumi na mbili iliyo pita umetumia vilevi vifuatavyo?(weka jibu zaidi ya moja inapohitajika)

1.Pombe
2.Bangi
3.Sigara/tumbaku
4.opiodi (heroini)
5.kokeni
6.Mirungi
7.Valiumu
8.Vinuswa, kama petroli,gundi
9.Hapana

13.Je, hivi sasa una ugonjwa sugu au upo kwenye tiba ya magonjwa sugu kama (weka jibu zaidi ya moja inapohitajika)

1.Kisukari
2.shinikizo la damu na moyo
3.Saratani
4.Maumivu ya mifupa na nyonga
5.Ini au figo
6.Hapana

III. Ukubwa wa dalili za msonono (PHQ-9)

Kwa juma mbili zilizopita, mara ngapi umesumbuliwa na matatizo haya: Jaza namba kuonyesha jibu lako.

14. Mwelekeo mdogo au kukosa raha kufanya vitu

0.Hapana kabisa
1.Siku kadhaa
2.Zaidi ya nusu siku hizi
3.Karibu kila siku

15. Kujisikia kama huwezi kuchangamka, huzuni au kukosa tumaini

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

16. Tatizo kupata usingizi au tatizo kuendelea kulala baada ya usingizi ama kula kupita kiasi

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

17.Kujisikia kuchoka au kuwa na nguvu kidogo

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

18.Kupunguwa kwa hamu ya kula au kula kupita kiasi

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

19. Kujisikia vibaya mwenyewe, au kusikia kama umeshindwa, au umejishusha, au umeshusha chini familia yako

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

20.Tatizo kwenye kutuliza akili kwenye vitu kama kusoma gazeti au kangalia runinga

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

21. Kusogea au kuzungumza polepole sana hata ingeweza kuonekana kwa watu wengine. Ama kinyume kuwa na mashaka/wasiwasi au kutotulia kiasi hata umekuwa ukitembea tembea sana kuliko kawaida

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

22. Fikira kwamba ni heri ukifa, au fikira za kujiumiza kwa njia fulani?

0.Hapana kabisa

1.Siku kadhaa

2.Zaidi ya nusu siku hizi

3.Karibu kila siku

23. Kama umejibu maswali yote, kwa kiasi gani haya matatizo yamefanya vigumu kufanya kazi zako, kutunza vizuri vitu nyumbani au kuelewana na watu wengine?

0.Sio vigumu hata kidogo

1.Vigumu kiasi

2.Vigumu sana

3.Kwa shida zaidi